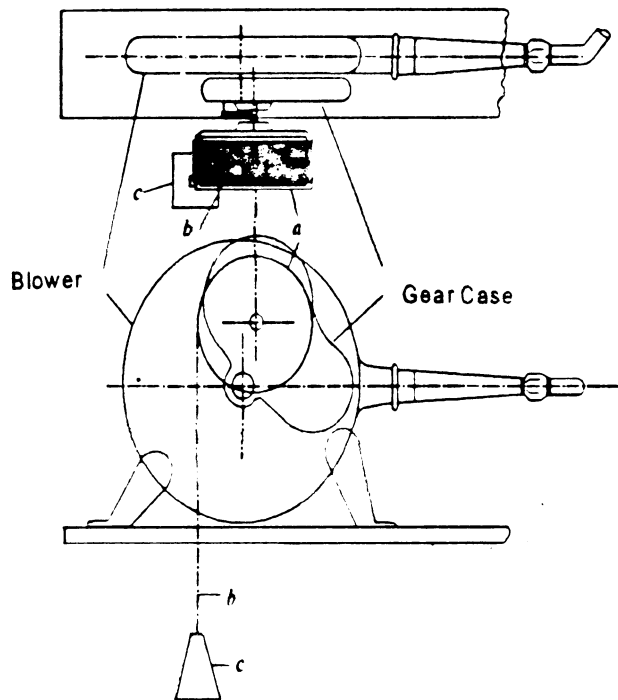


**§ 84.146 Method of measuring the power and torque required to operate blowers.**

As shown in Figure 1 of this section, the blower crank is replaced by a wooden drum, *a* (13 cm. (5 inches) in diameter is convenient). This drum is wound with about 12 m. (40 feet) of No. 2 picture cord, *b*. A weight, *c*, of sufficient mass to rotate the blower at the desired speed is suspended from this wire cord. A mark is made on the cord about 3 to 4.5 m. (10 to 15 feet) from the weight, *c*. Another mark is placed at a measured distance (6–9 m./20–30 feet is

convenient) from the first. These are used to facilitate timing. To determine the torque or horsepower required to operate the blower, the drum is started in rotation manually at or slightly above the speed at which the power measurement is to be made. The blower is then permitted to assume constant speed, and then as the first mark on the wire leaves the drum, a stopwatch is started. The watch is stopped when the second mark leaves the drum. From these data the foot-pounds per minute and the torque may be calculated.

FIGURE 1—APPARATUS FOR MEASURING POWER REQUIRED TO OPERATE BLOWER. (42 CFR PART 84, SUBPART J, § 84.146)



**§ 84.147 Type B supplied-air respirator; minimum requirements.**

No Type B supplied-air respirator shall be approved for use with a blower or with connection to an air supply device at positive pressures.

**§ 84.148 Type C supplied-air respirator, continuous flow class; minimum requirements.**

(a) Respirators tested under this section shall be approved only when they

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supply respirable air at the pressures and quantities required.

(b) The pressure at the inlet of the hose connection shall not exceed 863 kN/m.<sup>2</sup> (125 pounds per square inch gage).

(c) Where the pressure at any point in the supply system exceeds 863 kN/m.<sup>2</sup> (125 pounds per square inch gage), the respirator shall be equipped with a pressure-release mechanism that will prevent the pressure at the hose connection from exceeding 863 kN/m.<sup>2</sup> (125 pounds per square inch gage) under any conditions.

**§ 84.149 Type C supplied-air respirator, demand and pressure demand class; minimum requirements.**

(a) Respirators tested under this section shall be approved only when used to supply respirable air at the pressures and quantities required.

(b) The manufacturer shall specify the range of air pressure at the point of attachment of the air-supply hose to the air-supply system, and the range of hose length for the respirator. For example, he might specify that the respirator be used with compressed air at pressures ranging from 280-550 kN/m.<sup>2</sup> (40 to 80 pounds per square inch) with from 6 to 76 m. (15 to 250 feet) of air-supply hose.

(c) The specified air pressure at the point of attachment of the hose to the air-supply system shall not exceed 863 kN/m.<sup>2</sup> (125 pounds per square inch gage).

(d)(1) Where the pressure in the air-supply system exceeds 863 kN/m.<sup>2</sup> (125 pounds per square inch gage), the respirator shall be equipped with a pressure-release mechanism that will prevent the pressure at the point of attachment of the hose to the air-supply system from exceeding 863 kN/m.<sup>2</sup> (125 pounds per square inch gage).

(2) The pressure-release mechanism shall be set to operate at a pressure not more than 20 percent above the manufacturer's highest specified pressure. For example, if the highest specified pressure is 863 kN/m.<sup>2</sup> (125 pounds per square inch), the pressure-release mechanism would be set to operate at a maximum of 1,035 kN/m.<sup>2</sup> (150 pounds per square inch).

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**§ 84.150 Air-supply line tests; minimum requirements.**

Air supply lines employed on Type A, Type B, and Type C supplied-air respirators shall meet the minimum test requirements set forth in Table 8 of this subpart.

**§ 84.151 Harness test; minimum requirements.**

(a)(1) Shoulder straps employed on Type A supplied-air respirators shall be tested for strength of material, joints, and seams and must separately withstand a pull of 113 kg. (250 pounds) for 30 minutes without failure.

(2) Belts, rings, and attachments for life lines must withstand a pull of 136 kg. (300 pounds) for 30 minutes without failure.

(3) The hose shall be firmly attached to the harness so as to withstand a pull of 113 kg. (250 pounds) for 30 minutes without separating, and the hose attachments shall be arranged so that the pull or drag of the hose behind an advancing wearer does not disarrange the harness or exert pull upon the facepiece.

(4) The arrangement and suitability of all harness accessories and fittings will be considered.

(b)(1) The harness employed on Type B supplied-air respirators shall not be uncomfortable, disturbing, or interfere with the movements of the wearer.

(2) The harness shall be easily adjustable to various sizes.

(3) The hose shall be attached to the harness in a manner that will withstand a pull of 45 kg. (100 pounds) for 30 minutes without separating or showing signs of failure.

(4) The design of the harness and attachment of the line shall permit dragging the maximum length of hose considered for approval over a concrete floor without disarranging the harness or exerting a pull on the facepiece.

(5) The arrangement and suitability of all harness accessories and fittings will be considered.

(c) The harness employed on Type C respirators shall be similar to that required on the Type B respirator, or, it may consist of a simple arrangement for attaching the hose to a part of the wearer's clothing in a practical manner